SEMITOP®2

Thyristor and Diode separated in the same housing

SK 75 TAE

Target Data

Features

- Compact Design
- One screw mounting
- Heat transfer and isolation through direct copper bonded aluminium oxide ceramic (DBC)
- Glass passivated thyristor chips
- Up to 1600V reverse voltage

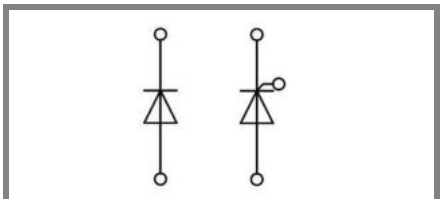
Typical Applications*

- UPS

1) REMARKS: V_T , $V_{T(TO)}$,V_F , V_{TO}= chip level value

V_{RSM} V	V_{RRM}, V_{DRM} V	I_T= 75 A (T_s = 80 °C)
1300	1200	SK75TAE12

Characteristics		Ts=25°C, unless otherwise specified	
Symbol	**Conditions**	**Values**	**Units**
I_T	T_s=80°C	75	A
I_T	T_s=100°C	50	A
			A
I_{TSM}/I_{FSM}	T_{vj} = 130 °C; 10 ms	1250	A
I^2t	T_{vj} = 130 °C; half sine wave, 10 ms	7810	A^2s
T_{stg}		-40 ... +130	°C
T_{solder}	terminals, 10 s	260	°C
Thyristor			
$(dv/dt)_{cr}$	T_{vj} = 125 °C	500	V/µs
$(di/dt)_{cr}$	T_{vj} = 125 °C; f = Hz	125	A/µs
t_q	T_{vj} = 130 °C; typ.	150	µs
I_H	T_{vj} = 25 °C; typ. / max.	250 /	mA
I_L	T_{vj} = 25 °C; R_G = ; typ. / max.	600 /	mA
V_T	T_{vj} = 130 °C; (I_T = 110 A); max.	1,2	V
$V_{T(TO)}$	T_{vj} = 130 °C	max. 0,85	V
r_T	T_{vj} = 130 °C	max. 4,4	mΩ
I_{DD}; I_{RD}	T_{vj} = °C; V_{DD} = V_{DRM}; V_{RD} = V_{RRM}	max.	mA
$R_{th(j-s)}$	max. value	0,6	K/W
T_{vj}		-40 ... +130	°C
V_{GT}	T_{vj} = 25 °C; d.c.	1,98	V
I_{GT}	T_{vj} = 25 °C; d.c.	100	mA
V_{GD}	T_{vj} = 130 °C; d.c.	0,25	V
I_{GD}	T_{vj} = 115 °C; d.c.	6	mA
Diode			
V_F	T_{vj} = 125 °C; (I_F = 100 A); max.	1,1	V
$V_{(TO)}$	T_{vj} = 125 °C	0,83	V
r_T	T_{vj} = 125 °C	1,6	mΩ
I_{RD}	T_{vj} = °C; V_{RD} = V_{RRM}		mA
$R_{th(j-s)}$	max. value	0,62	K/W
T_{vj}		-40 ... +150	°C
Mechanical data			
V_{isol}	a.c. 50Hz; r.m.s.; 1s (1min)	2500 (3000)	V
M_1	mounting torque	2	Nm
w		19	g
Case	SEMITOP®2	T 82	



TAE

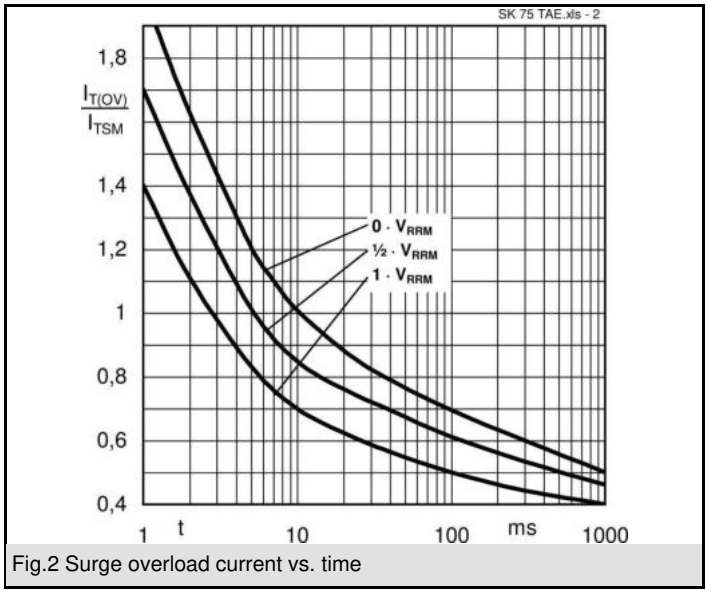


Fig.2 Surge overload current vs. time

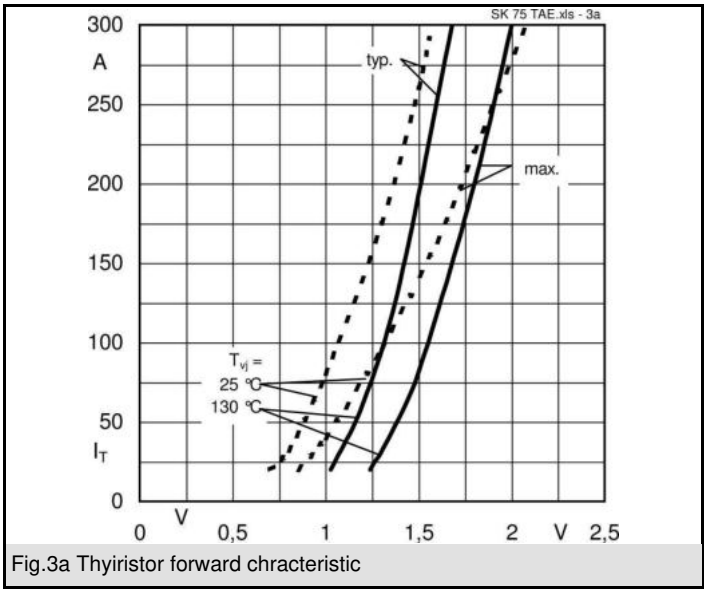


Fig.3a Thyiristor forward chracteristic

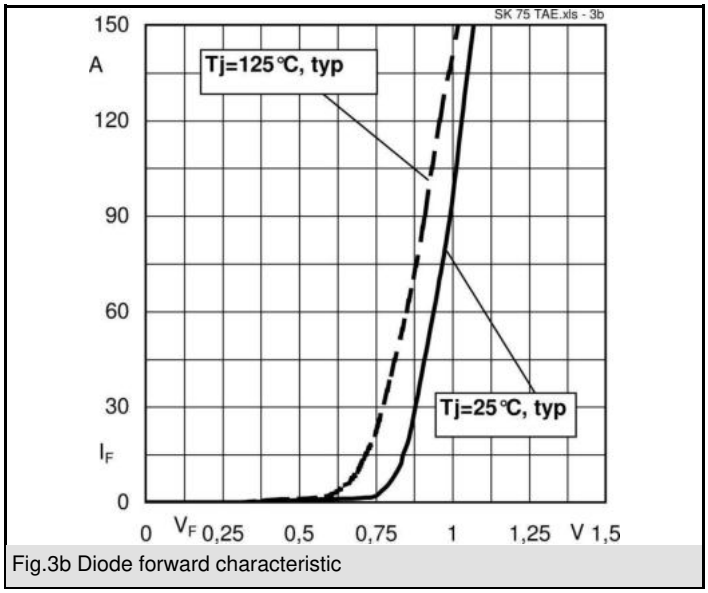


Fig.3b Diode forward characteristic

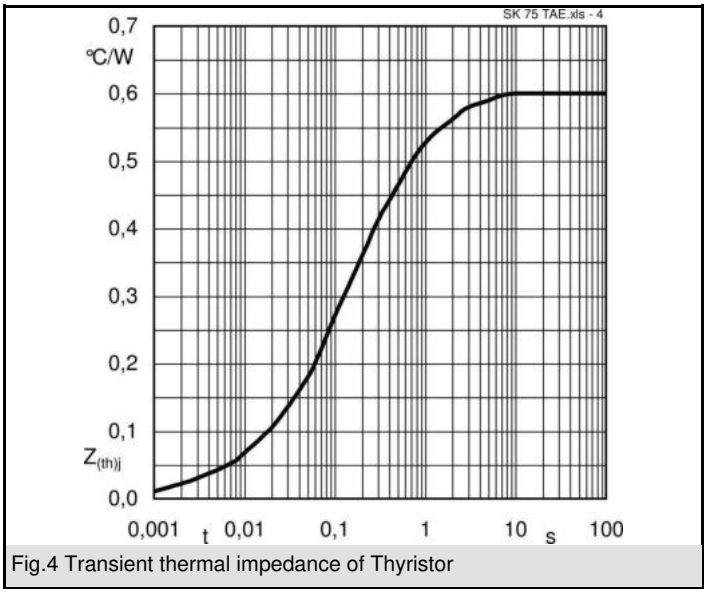


Fig.4 Transient thermal impedance of Thyristor

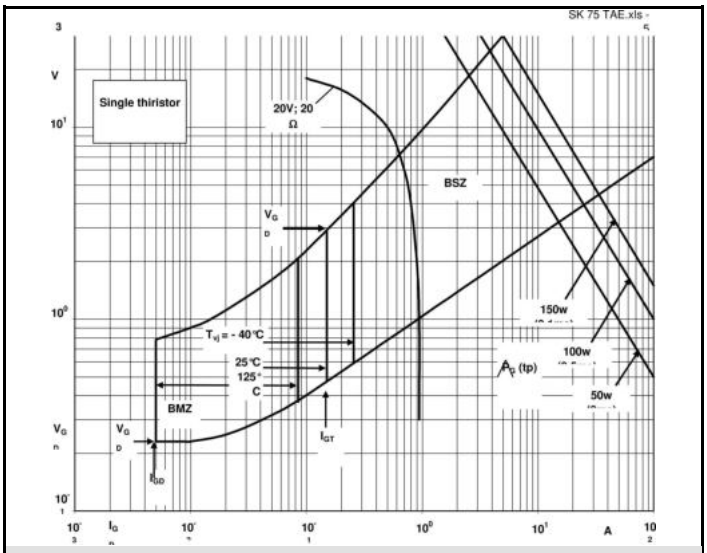
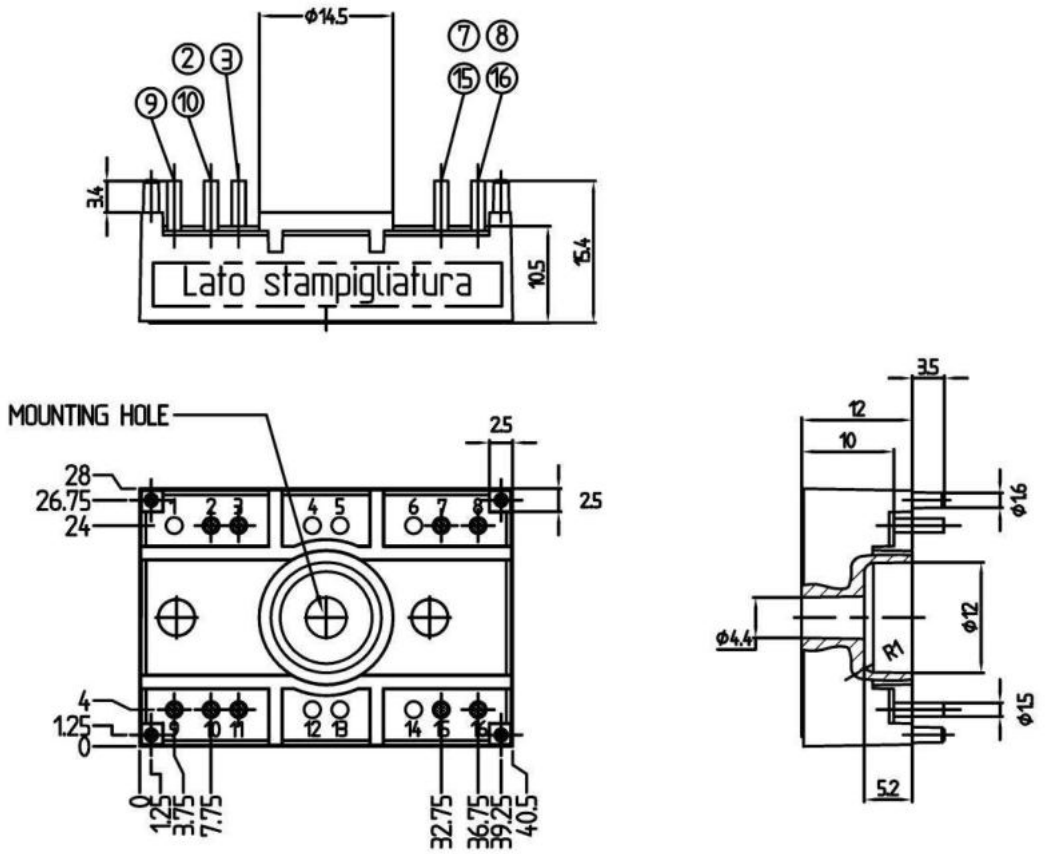


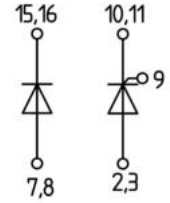
Fig.5 Gate trigger characteristic

Dimensions in mm



SUGGESTED HOLEDIAMETER FOR THE SOLDER PINS AND THE MOUNTING PINS IN THE PCB: 2 mm

Case T82 (Suggested hole diameter, in the PCB, for solder pins and plastic mounting pins: 2mm)



T82

This is an electrostatic discharge sensitive device (ESDS), international standard IEC 60747-1, Chapter IX.

* The specifications of our components may not be considered as an assurance of component characteristics. Components have to be tested for the respective application. Adjustments may be necessary. The use of SEMIKRON products in life support appliances and systems is subject to prior specification and written approval by SEMIKRON. We therefore strongly recommend prior consultation of our personal.

